STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING

GRETCHEN WHITMER
GOVERNOR

LIESL EICHLER CLARK
DIRECTOR

December 20, 2019

Mr. Scott Wright, Environmental Manager
Diamond Chrome Plating, Incorporated
P.O. Box 557
Howell, Michigan 48844

Dear Mr. Wright:

SUBJECT: Proposed Evaporator/Dryer Unit Demonstration
National Pollutant Discharge Elimination System (NPDES)
NPDES Permit No. MI0058204
Designated Name: Diamond Chrome Plating Inc.
First Amended Consent Decree Case No. 03-1862-CE

On May 17, 2019, and August 16, 2019, Diamond Chrome Plating (DCP) submitted variations on a proposal to include an evaporator and dryer system in the treatment train for handling process wastewater and contaminated groundwater. As stated in the enclosed letter dated September 13, 2019, the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and Michigan PFAS Action Review Team (MPART) issued a letter with requirements and comments for DCP's response because DCP's proposed system is not a proven technology to remove PFAS from the environment. EGLE and MPART met with DCP representatives on September 30, 2019, to discuss these concerns and the proposed system.

DCP's October 30, 2019, reply did not address the regulatory requirements identified in the September 13, 2019, letter, including but not limited to concerns about air deposition of pollutants including PFOS and hexavalent chromium that may cause exceedances of Michigan's water quality standards (WQS). In addition, DCP's reply did not address how DCP would ensure appropriate management of hazardous waste constituents and prevent new releases of hazardous substances into the environment related to the proposed system. Instead, DCP submitted a proposal to conduct pilot testing of the proposed evaporator and dryer unit divided into two steps. This communication discusses our concerns with Step 1, the use of an evaporator and dryer system with pretreated wastewater, and Step 2, DCP's plan to reduce or eliminate treatment for pollutants before processing by the evaporator/dryer unit as a substitute for the currently used, proven treatment technology, and requirements that must be completed prior to conducting any pilot testing.

Step 1 Pilot Study
Step 1 of DCP's proposal includes evaporation and drying of fully treated (for both metals and PFOS) wastewater and sampling of pollutants at various points in the process. "Step 2" is not described, but the stated objective is to demonstrate that the evaporator/dryer system can be used to meet the performance objectives for remediation if process wastewater and groundwater cleanup wastewater is processed without treatment or with reduced treatment.

Although EGLE does not have direct environmental concerns regarding Step 1 of the pilot test, it is clear that the Step 1 Pilot Study using treated wastewater will not address EGLE and MPART's concerns regarding emissions and releases from the processing of untreated wastewater. EGLE is concerned that this proposed demonstration will take four months but will not move DCP toward meeting remediation performance objectives of Paragraph 6.1 (a) through (e) of the First Amended Consent Decree. EGLE urges DCP to instead consider proven options to treat its complex array of contamination that may include expanding the existing wastewater treatment system and/or running its pretreatment system for more than one shift to increase treatment capacity and provide more complete capture of the groundwater contamination plume.

The second part of this communication describes more specifically EGLE's concerns regarding Step 2, DCP's plan to reduce or eliminate treatment before processing through the evaporator/dryer system as a substitute for the currently used, proven treatment technology.

Step 2 Pilot Study
Notwithstanding the above, this communication also provides requirements that shall be completed if DCP intends to proceed to Step 2 of the pilot.

The boil tests conducted by DCP in its May 17, 2019, memorandum show that a significant percentage of PFOS is likely to be emitted into the air through water vapor and/or volatilization, since the boiling point of PFOS is similar to that of water and thermal destruction of PFOS occurs at much higher temperatures. The boil test results for hexavalent chromium are also concerning. Contaminants transferred to air will subsequently be deposited onto the ground and/or into the waters of the state through air deposition and surface water runoff. Peer reviewed studies have shown PFAS contamination of groundwater upgradient of manufacturing facilities due to air deposition.

EGLE's Water Resources Division (WRD) remains concerned that these proposed emissions of PFOS from the dryer unit will cause exceedances of the WQS for PFOS in discharged stormwater, which has a WQS of 12 parts per trillion (Mich. Admin Code, R 323.1047*)*. Data collected for the "Step 1" evaporator/dryer unit pilot will not

demonstrate that emissions from the processing of untreated or partially treated wastewater through the dryer unit will meet the requirements of Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act (NREPA), MCL 324.3101 et seq. Part 31 prohibits discharges of pollutants, either directly or indirectly (in this case, an indirect discharge through water vapor and potential volatilization) that may become injurious to designated uses as described below in Section 3109(1) of Part 31, Water Resources Protection, the NREPA:

> Sec. 3109.
> (1) A person shall not directly or indirectly discharge into the waters of the state a substance that is or may become injurious to any of the following:
> (a) To the public health, safety, or welfare.
> (b) To domestic, commercial, industrial, agricultural, recreational, or other uses that are being made or may be made of such waters.
> (c) To the value or utility of riparian lands.
> (d) To livestock, wild animals, birds, fish, aquatic life, or plants or to their growth or propagation.
> (e) To the value of fish and game.

Step 2 Pilot Study Demonstration

Prior to processing untreated or partially treated wastewater and contaminated groundwater through the evaporator/dryer unit, the WRD requires that DCP demonstrate that emissions of pollutants of concern, including but not limited to PFOS, hexavalent chromium, and volatile organic compounds (including trichloroethylene), will not cause exceedances of WQS.

The WRD requires that sixty days prior to eliminating pretreatment of wastewater/contaminated groundwater (as described for Step 1 of the pilot in your October 30, 2019, letter), DCP shall submit to the WRD for review and approval, a screening evaluation estimating the concentrations of pollutants of concern that would be indirectly discharged to waters of the state from the evaporator and dryer system once the process wastewater/contaminated groundwater is not treated or is partially treated. DCP shall include in that screening evaluation a demonstration that WQS will not be exceeded for pollutants of concern that may be emitted.

An approvable demonstration will include an estimate of air pollutant mass emission rates and their basis and the mass deposited in the affected geographic area as modelled with AERMOD (the American Meteorological Society and U.S. Environmental Protection Agency Regulatory Model). As part of this demonstration, this data will then be used with the first flush storm water runoff volume calculated with the curve number method using a one-inch rainfall to calculate concentrations of pollutants discharged in storm water runoff in affected watersheds. For this screening, DCP shall determine the

average time period between one-inch storm events and use that period for the air deposition accumulation period and assume no loss of pollutants between one-inch storm events. Further, 100 percent impervious surfaces should be assumed.

In addition, DCP shall monitor storm water outfalls in the area estimated to be impacted by emissions from the evaporator/dryer system for pollutants of concern to establish current concentrations of pollutants prior to operation of the evaporator/dryer system. This data will be used to evaluate current conditions and actual impacts of the operating system. DCP shall submit a storm water monitoring plan for WRD approval 60 days prior to beginning sampling. An approvable monitoring plan shall include pollutants to be sampled, sampling methods, sample locations, and methods of analysis and shall consider the impacted area as estimated by the screening demonstration described above.

If DCP wishes to use other methods for this screening evaluation, prior approval from the WRD is required. Please submit alternative modeling proposals to EGLE 90 days prior to the proposed implementation date.

If the screening evaluation does not demonstrate that WQS will be met, implementation of Step 2 shall not commence. If the screening evaluation demonstrates that air deposition from the Step 2 evaporator/dryer unit is not predicted to cause a violation of WQS, Step 2 may be implemented with storm water runoff monitoring in the affected watersheds to verify the assumptions in the screening evaluation and provide for implementation of the contingency plan if defined thresholds are exceeded.

If you have questions about how to conduct this screening evaluation, please contact Mr. Jim Haywood, SIP Development Unit, Air Quality Evaluation Section, Air Quality Division at 517-284-6745 or HaywoodJ@Michigan.gov regarding AERMOD, and Mr. Ralph Reznick, Nonpoint Source Unit, Surface Water Assessment Section, WRD at 517-290-5585 or ReznickR@Michigan.gov regarding storm water runoff volume and concentration estimates.

Sincerely,

Teresa Seidel, Director
Water Resources Division

Enclosure

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Sincerely,

Teresa Seidel, Director
Water Resources Division

Enclosure

cc: Mr. Matt Bolang, Livingston County Health Department
Mr. Ervin Suida, City of Howell
Mr. Jerry Chinn, DCP
Mr. Jim Colmer, BB & E
Mr. Tod Fracassi, Pepper Hamilton, LLP
Mr. Brian Negele, Department of Attorney General
Ms. Lisa Quiggle, Department of Health and Human Services
Mr. Jon Russell, EGLE
Mr. David Pingel, EGLE
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Mr. Jim Haywood, EGLE
Mr. Ralph Reznick, EGLE
Ms. Katelyn Wysocki, EGLE
Mr. Dan McGeen, EGLE
Ms. Rebecca Taylor, EGLE
Mr. Brian Grochowski, EGLE